



## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

## MEMORANDUM

DATE: July 20, 1984

TO: Division File

FROM: Margo R. Dilday - Southern Region *MRD*

SUBJECT: LPC 11911501 - Madison County - Wood River/Amoco - Riverfront - ILD980503106  
Subpart F Inspection dated 6/26/84 at subject facility.

This memorandum serves to highlight and clarify items within the checklist to better indicate alleged violations and point out deficiencies, which by a strict interpretation of 725.190-194, the latter cannot be considered violations, but nevertheless cause the ground water monitoring program to be inadequate relative to the information described to be desirable in the guidelines, Groundwater Monitoring Guidance of Owners and Operators of Interim Status Facilities, USEPA; SW-963: Revised March 1983.

APPENDIX A-1

The ground water monitoring program remains unchanged since the September 23, 1983 inspection by Perry Mann. No additional wells were installed or proposed as of the June 26, 1984 inspection by this writer. Dick Sumner, an Environmental Engineer at Amoco Chemical accompanied me during this inspection. Sampling protocol was observed and samples were split. The first year of monitoring was completed in December 1983 following the compliance schedule submitted to Mark Haney in a letter dated May 10, 1983. The facility had not yet decided whether or not to go into assessment as of the subject inspection date, per Mr. Sumner, because the statistical analyses were to begin that week.

APPENDIX A-2

No applicable to the subject facility as of the 6/26/84 inspection date.

APPENDIX A-3

Not applicable to the subject facility as of the 6/24/84 inspection date.

APPENDIX B

Remains unchanged since the September 22, 1983 inspection by Perry Mann.

APPENDIX C

Not applicable to the subject facility as of the 6/24/84 inspection date.

APPENDIX D

Not applicable to the subject facility as of the 6/24/84 inspection date.

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July 20, 1984

Additional Comments:

During the subject inspection, samples were split from Well # P-5 and #R-3. Similar procedures were used on each well. Dick Sumner was in charge of the sampling and was assisted by Joe Maher, a lab technician at Amoco. The following deficiencies were observed which could make samples less representative:

Stick up and total depth are not routinely measured prior to sampling, per Mr. Sumner, because they are assumed to remain somewhat constant. Therefore, any change in elevation of the top or bottom of the well due to damage, settlement, or siltation would go undetected. These parameters should be measured and recorded each time samples are taken. Alteration of the berm in the vicinity of Well R-3 had caused an unmeasured change in stick up (the well was almost covered; less than 6 inches of stick up remained).

No field notebook was utilized during sampling. It is necessary to keep records of sampling conditions, protocol, observations, and other pertinent information to assure the adequacy of the ground water monitoring program. The proper format is discussed in the USEPA document: Groundwater Monitoring Guidance for Owners and Operators of Interim Status Facilities, starting on page 64.

The wells were evacuated with an acrylic bailer, removing two volumes. At least three volumes should be removed prior to sampling. Also, dedicated bailers should be used to prevent cross-contamination of the wells.

Locking well caps and protective cemented standpipes for each well are not provided. This provides the opportunity for above ground damage or sabotage.

It should also be noted that samples from Well # P-5 had a characteristic refinery odor.

Evaluations of ground water surface elevations still fail to address the existence of the "shallow piezometric surface", or the May 1983 Woodward-Clyde report that indicates that the ground water flow in the deeper zone is "northeasterly, probably toward the Amoco supply wells".

MRD:jlr

cc: Southern Region  
Mark Haney  
Phil Van Ness

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APPENDIX A-1

FACILITY INSPECTION FORM FOR COMPLIANCE WITH INTERIM  
STATUS STANDARDS COVERING GROUND-WATER MONITORING

Company Name: Amoco-Riverfront ; IEPA I.D. Number: 11911501  
 Company Address: Amoco Riverfront Rd. ; USEPA I.D. Number: ILD980503106  
Wood River, IL ; Inspector's Name: Margo Dilday  
62095  
 Company Contact/Official: R. Sumner ; Branch/Organization: \_\_\_\_\_  
 Title: Environmental Engineer ; Date of Inspection: 6/26/84

	<u>Yes</u>	<u>No</u>	<u>Unknown</u>	<u>Wavied</u>
Type of facility: (check appropriately)				
a) surface impoundment	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
b) landfill	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
c) land treatment facility	<input type="checkbox"/>	<input type="checkbox"/>		
d) disposal waste pile*	<input type="checkbox"/>	<input type="checkbox"/>		

Ground-Water Monitoring Program

1. Was the ground-water monitoring program reviewed prior to site visit?  
If "No,"
 

<input checked="" type="checkbox"/>	<input type="checkbox"/>
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  - a) Was the ground-water program reviewed at the facility prior to site inspection?
 

<input type="checkbox"/>	<input type="checkbox"/>
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2. Has a ground-water monitoring program (capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility) been implemented? 725.190(a)
 

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>see memorandum</u>
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\*Listed separate from landfill for convenience of identification.

The completed checklist consists of Appendix A-1.

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Yes      No      Unknown      Wavied

3. Has at least one monitoring well been installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 725.191(a)(1)

\_\_\_ ☒ \_\_\_ see memorandum

a) Are ground-water samples from the uppermost aquifer, representative of background ground-water quality and not affected by the facility (as ensured by proper well number, locations and depths?)

\_\_\_ ☒ \_\_\_

4. Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 725.191(a)(2)

\_\_\_ ☒ \_\_\_

a) Do well numbers, locations and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer?

\_\_\_ ☒ \_\_\_

5. Have the locations of the waste management areas been verified to conform with information in the ground-water program?

\_\_\_ ☒ \_\_\_

a) If the facility contains multiple waste management components, is each component adequately monitored?

\_\_\_ ☒ \_\_\_

6. Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program?  
If "No," explain discrepancies.

☒ \_\_\_

7. Well completion details. 725.191(c)

a) Are wells properly cased?

☒ \_\_\_

b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths?

\_\_\_ ☒ \_\_\_

c) Are annular spaces properly sealed to prevent contamination of ground-water?

☒ \_\_\_

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	<u>Yes</u>	<u>No</u>	<u>Unknown</u>	<u>Wavied</u>
8. Has a ground-water sampling and analysis plan been developed? 725.192(a)	<u>✓</u>	---	---	
a) Has it been followed?	<u>✓</u>	---	---	
b) Is the plan kept at the facility?	<u>✓</u>	---	---	
c) Does the plan include procedures and techniques for:				
1) Sample collection?	<u>✓</u>	---	---	
2) Sample preservation?	<u>✓</u>	---	---	
3) Sample shipment?	<u>✓</u>	---	---	
4) Analytical procedures?	<u>✓</u>	---	---	
5) Chain of custody control?	<u>✓</u>	---	---	
9. Are the required parameters in ground-water samples being tested quarterly for the first year? 725.192(b) and 725.192(c)(1)	<u>✓</u>	---		
a) Are the ground-water samples analyzed for the following:				
1) Parameters characterizing the suitability of the ground-water as a drinking water supply? 725.192(b)(1)	<u>✓</u>	---		
2) Parameters establishing ground-water quality? 725.192(b)(2)	<u>✓</u>	---		
3) Parameters used as indicators of ground-water contamination? 725.192(b)(3)	<u>✓</u>	---		
(i) For each indicator parameter are at least four replicate measurements obtained at each upgradient well for each sample obtained during the first year of monitoring? 725.192(c)(2)	<u>✓</u>	---		
(ii) Are provisions made to calculate the initial background arithmetic mean and variance of the respective parameter concentrations or values obtained from the upgradient well(s) during the first year? 725.192(c)(2)	<u>✓</u>	---		

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Yes      No      Unknown      Wavied

b) For facilities which have completed first year ground-water sampling and analysis requirements:

- 1) Have samples been obtained and analyzed for the ground-water quality parameters at least annually? 725.192(d)(1)
- 2) Have samples been obtained and analyzed for the indicators of ground-water contamination at least semi-annually? 725.192(d)(2)

N/A      First year completed December, 1983

✓      June samples were obtained during inspection.

c) Were ground-water surface elevations determined at each monitoring well each time a sample was taken? 725.192(e)

✓      ---

d) If it was determined that modification of the number, location or depth of monitoring wells was necessary, was the system brought into compliance with 725.191(a)? 725.193

NOT DETERMINED

10. Has an outline of a ground-water quality assessment program been prepared? 725.193(a)

✓      ---

a) Does it describe a program capable of determining:

- 1) Whether hazardous waste or hazardous waste constituents have entered the ground-water?
- 2) The rate and extent of migration of hazardous waste or hazardous waste constituents in ground-water?
- 3) Concentrations of hazardous waste or hazardous waste constituents in ground-water?

✓      ---

✓      ---

✓      ---

b) Were records kept of the analyses and evaluations, specified in the ground-water quality assessment (throughout the active life of the facility)? 725.194(b)(1)

N/A

- 1) If a disposal facility, were(are) records kept through the post-closure period as well?

N/A

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	<u>Yes</u>	<u>No</u>	<u>Unknown</u>	<u>Waived</u>
11. Have records been kept of analyses for parameters in 725.192(c) and (d)? 725.194(a)(1)	<u>✓</u>	<u>    </u>		
12. Have records been kept of ground-water surface elevations taken at the time of sampling for each well? 725.194(a)(1)	<u>✓</u>	<u>    </u>		
13. Have records been kept of required evaluations elevations in 725.192(e)? 725.194(a)(1)	<u>✓</u>	<u>    </u>		

\*EPA will be proposing (Spring 1982) to replace this reporting requirement with an exception reporting system where reports will be submitted only where maximum contaminant levels or significant changes in the contamination indicators or other parameters are observed. EPA has delayed compliance stage for 14 a) above until August 1, 1982 (Federal Register, February 23, 1982, p. 7841-7842) to be coupled with exception reporting in the interim.

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